

**Notice of Allowability**

Application No.

10/676,651

Examiner

Shew-Fen Lin

Applicant(s)

GHARACHORLOO ET AL.

Art Unit

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/3/2007.
2. ☒ The allowed claim(s) is/are 2, 4, 5, 7, 9-13, 15, 17-24, 27 and 28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20070403.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
**HOSAIN ALAM****SUPERVISORY PATENT EXAMINER**

### DETAILED ACTION

- a. This action is responsive to amendment filed on 4/3/2007.
- b. Claims 2, 4-5, 7, 9-13, 15, 17-24, and 27-28 are allowed (renumbered as claims 1-20).



### *Reasons for Allowance*

The following is an examiner's statement of reasons for allowance:

Independent claims 27, and 28 each recites, among other limitations, the limitation of "search a second document index comprising a plurality of document index partitions,.. search a respective partition index of the plurality of partition indexes so as to identify a subset of the document index sub-partitions that contain the set of terms, and to direct the search query to only the identified subset of the document index sub-partitions; wherein the plurality of balancers operate in parallel; wherein the plurality of balancers direct each search query to all of the partition indexes in the plurality of partition indexes".

It is noted that many prior arts (for example, Choy et al. US Patent 5,551,027) teach a multi-tiered indexing method for a partitioned table in a parallel or distributed database system, but none of them teaches this limitation of "search a second document index, ... query all partition indexes,... then search a subset of the document index sub-partitions that contain the set of terms". The patentability of Applicants' invention was examined and evaluated against the prior art listed below. These prior art are considered pertinent to the subject matter of Applicants' invention, as discussed next,

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- Choy; David M. et al., US 5551027 A, "Multi-tiered indexing method for partitioned data".
- Johnson; Theodore, US 6216125 B1, "Coarse indexes for a data warehouse".
- Agarwal; Nipun et al., US 6816853 B1, "Method and system for efficiently evaluating a query against partitioned data".
- Badue, C., Ribeiro-Neto, B., Baeza-Yates, R., and Ziviani, N. "Distributed query processing using partitioned inverted files", SPIRE 2001.

However, none of the prior art of the record teaches or suggests, independently or in combination, the combination of claimed elements including the specific features recited by the independent claims, 27 and 28 as indicated above.

The dependent claims, being definite, further limiting, and fully enabled by the specification and are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The examiner can normally be reached on 8:30AM - 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SFL  
Shew-Fen Lin  
Patent Examiner

Art Unit 2166  
April 5, 2007



**HOSAIN ALAM**  
**SUPERVISORY PATENT EXAMINER**